

**MATH2111 Class Exercise 4**

Family Name	Other Names	Student No.

---

**CALCULATORS MUST NOT BE USED**

---

1. Let  $A = \begin{pmatrix} -3 & 0 & 2 \\ 1 & 3 & -1 \end{pmatrix}$  and  $B = \begin{pmatrix} 2 \\ -3 \\ 1 \end{pmatrix}$ .

(a) Write down the order of  $A$ .

(1)

(b) Find  $A^T$ .

(1)

(c) Find  $B^T$ .

(1)

(d) Find  $AB$ .

(2)

---

2. Let  $C = \begin{pmatrix} 3 & -2 \\ 4 & 3 \end{pmatrix}$ .

(a) Find the determinant  $|C| = \det C$ .

(1)

(b) Find the inverse matrix  $C^{-1}$  of  $C$ .

(2)

(c) Find  $C^2$ .

(2)

---